

Propachyrucos robustus Roth, 1899 (Notoungulata, Hegetotheriidae) wrongly synonymized with *Hemihegetotherium* cf. *H. Tantillum* Vera, 2019

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PROPACHYRUCOS ROBUSTUS ROTH, 1899 (NOTOUNGULATA, HEGETOTHERIIDAE) WRONGLY SYNONYMIZED WITH *HEMIHEGETHERIUM* CF. *H. TANTILLUM* VERA, 2019

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ROTH (1899) described the new species *Propachyrucos depressus*, *P. medianus*, and *P. robustus* (Notoungulata, Hegetotheriidae) from the Collón Curá Formation (middle Miocene), Province of Neuquén, Argentina. They were later transferred to *Pachyrukhos* Ameghino, 1885, by Pascual *et al.* (1978) without any systematic discussion, likely based on the stratigraphic provenance of *Pachyrukhos* (see Seoane and Cerdeño, 2019; Seoane *et al.*, 2019; Vera, 2019). Mones (1986) listed these species as belonging to *Propachyrucos*, but posterior authors followed Pascual *et al.*'s proposal (Kramarz *et al.*, 2011; López *et al.*, 2018). The recent systematic revision by Seoane and Cerdeño (2019) justified that *Propachyrucos depressus* and *P. medianus* belong to *Pachyrukhos*. However, they considered both species as *nomina dubia*, because their p2 is not known and this tooth would allow assigning them to one of the two valid species: *Pachyrukhos moyani* Ameghino, 1885, and *Pa. politus* (Ameghino, 1902); *Pa. robustus* was not discussed by Seoane and Cerdeño (2019).

Vera (2019) revised *Propachyrucos robustus* (wrongly spelled *Propachyrukhos* in that paper) and, simultaneously, defined the species *Hemihegetotherium tantillum* Vera, 2019, based on specimens from the Collón Curá Formation. She revised the holotype of *P. robustus*, MLP 12-3161, and proposed the synonymy of this species name with *Hemihegetotherium* cf. *H. tantillum* sp. nov. Vera (2019) explained that MLP 12-3161 is close to *Hemihegetotherium*,

but the incompleteness of its m3 prevented its identification at species level. Based on its similar size to *H. tantillum*, Vera proposed the mentioned synonymy, which we consider a confusing and erroneous nomenclatural act. First, the synonymy of a species name with a taxon in open nomenclature is not endorsed by the ICZN (1999). Second, if the author had proposed the synonymy between *P. robustus* and *H. tantillum*, the former would have priority of name, as Vera (2019) recognized, but she explained that the new name would avoid a possible case of secondary homonymy with "*Hemihegetotherium robustum*" Rovereto, 1914. But, in this case, *H. tantillum* would not be a new species but a *nomen novum* (ICZN, 1999, glossary).

Seoane and Cerdeño (2019) also revised the specimen MLP 12-3161, stating that features described in *H. tantillum*, such as similar length of trigonid and talonid, convex distal face, and projections of mesial and distal ends, are not present in *P. robustus*. Conversely, they highlighted several features shared by MLP 12-3161 and *Hegetotherium mirabile* Ameghino, 1887, like trigonid shorter than talonid, straight distal face, and the morphology of lobes, but the absence of posterolingual projection precluded the proposal of synonymy between *P. robustus* and *Hegetotherium mirabile*. Consequently, Seoane and Cerdeño (2019) considered *Propachyrucos robustus* as *nomen dubium*, nomenclatural act that we confirm herein.

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